#8 4/11/2/12/03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

In re Application of:	:	
Max Harry Weil, et al.	:	
Serial No.: 09/678,616	:	Group Art Unit: 3764
Filed: October 4, 2000	:	Examiner: Justine Yu
For: CHEST COMPRESSOR	:	

BRIEF FOR APPELLANT
UNDER 35 CFR 1.192(c)

Hon. Commissioner of Patents — January 30, 2003

Washington D.C. 20231 — Los Angeles, CA 90024

This is an appeal from the Examiner of Group Art Unit 3764 rejecting claims 8, 10, 13, 14 and 15 which represent all of the claims in the case.

REAL PARTY IN INTEREST

The real party in interest is the assignee, The Institute of Critical Care Medicine, a nonprofit California corporation.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

STATUS OF CLAIMS

Pending: Claims 8, 10, 13-15.

Cancelled: Claims 1-7, 9, and 11-12.

STATUS OF AMENDMENTS

An amendment was filed subsequent to the final rejection, which amended only the specification and drawings.

SUMMARY OF THE INVENTION

The present invention relates to apparatus such as shown in applicant's Fig. 1, for applying compressions to the chest of a patient who has undergone cardiac arrest or the like. The apparatus includes an actuator (16) with a pressing member (12) for pressing against the patient. A torso wrap (32) wraps to the back of the patient, so when the pressing member presses against the patient's chest, such forces are withstood by the patient's back. The apparatus also includes a stabilizer (150) that prevents the actuator (16) from tilting by many degrees so the pressing member (12) might press with only one side against the patient, which could injure the patient. Instead, the stabilizer (150 in Fig. 2) has leg portions with outer ends (160) that are spaced further from the axis (140) of the actuator than any portion of the pressing member (12). The stabilizer (150) greatly reduces the possibility that the actuator will begin to tilt progressively more as it keeps pumping against the patient's chest, until it tilts by many degrees and begins to injure the patient. As shown in applicant's Figs. 1 and 2, the stabilizer (150) is a saucer-shaped element. That is, it is in the shape of a saucer that is turned upside down. This results in the rim of the saucer (at 160 in Fig. 2) being the only part that presses against the patient.

When the actuator is not actuated, the pressing member (12) lies at the same height as the outer ends (160) of the saucer. When the actuator is energized, the pressing member 12 moves down (to position 12A). This avoids the pressing member gaining speed as it accelerates down, and then hitting the patent.

The actuator (16 in Fig. 2) includes a cylinder (60) and a piston(62) with a plurality of telescoping parts. The telescoping parts are shown in their fully extended position with the pressing member at 12A. The lowermost piston part

(shown at 66A and 66) has an inside surface (74) exposed to pressured fluid. The diameter of the inside surface is at least half of the diameter of the inside surface of the cylinder (60). This assures that the lowermost piston part (66A) is pushed down with a high force.

ISSUES

All of the claims 8, 10 and 13-15 were rejected as shown by or as obvious over one or more references. Thus a major issue is whether these claims are shown or are obvious over these references.

GROUPING OF CLAIMS

The rejected claims do not stand or fall together. Each claim is discussed in the Argument section of this Appeal Brief.

ARGUMENT

1. The Prior Art

Waide, et al. (5,399,148).

Woudenberg, et al. (4,664,098).

Japan (JP11301484A) by Kuroiwa.

2. Discussion of Each Claim

Claim 8 was rejected as obvious over Waide (5,399,148). Claim 8 describes apparatus for applying compressions to the chest of a patient, which includes a compressor assembly with a pressing member for pressing against the patient, a torso wrap that wraps to the back of the patient, and a stabilizer. As shown in applicant's Fig. 1, the stabilizer has leg portions (152, 154) with outer ends that are spaced further from the axis of the actuator than any part of the pressing member (12) that presses against the patient's chest. The outer ends of the stabilizer leg portions lie respectively closer to the head and legs of the patient than do the pressing members. Applicant's Fig. 1 certainly shows that the

end of leg 154 extends further towards the patient's legs than does the presser member (12). The stabilizer also has ends that lie closer to opposite sides of the patient than the pressing member. Applicant's Fig. 2 shows that the stabilizer outer end (160) and the leg portions that form the stabilizer, lie further from the axis (140) of the actuator than does the periphery of the pressing member (12). As mentioned above, the provision of such stabilizer with outer ends pressing against locations on the patient's chest far from the actuator, prevents the actuator from tipping towards the head or legs, or toward either side of the patient, and injuring the patient.

Waide's Fig. 2 shows a chest compressor 1 with a cylinder and piston, where the piston depresses a block 2 against a patient's chest. He also shows a support means with legs 3 at opposite sides of the block. His Fig. 1 shows that his block 2 lies just as far from the patient's legs as the opposite sides 3 of his support. If his support was turned 90°, then his block 2 would be just as far from the opposite sides of the patient as are the legs 3 of his support. Although Waide provides a stabilizer that prevents excess tipping of his actuator to the left or right, his stabilizer does not prevent tipping of his actuator towards the head or legs of the patient, which also can injure the patient. Accordingly, applicant believes that claim 8 is not obvious in view of Waide.

Claim 10, which depends from claim 8, describes the stabilizer as a saucer-shaped element that extends more than 180° about the axis of the actuator. Applicant believes that his Figs. 1 and 2, especially Fig. 2, clearly shows that the stabilizer 150 is in the shape of a saucer (which is turned upside-down from the position used for eating). Applicant notes that on page 7, beginning at line 13, the specification describes "The particular stabilizer 150 is in the form of a saucer, or a saucer-shaped element". Applicant believes that the drawings clearly show that the stabilizer is a saucer-shaped element, and therefore that the drawings are definite. The drawings were objected to on the grounds that they do not show a "saucer-shaped element".

Claim 13, which was rejected as shown by Waide, describes the outer end of the stabilizer as being spaced further from the axis than the pressing member, in every horizontal direction, to limit tilt of the compressor assembly in every tilt direction. Applicant's Fig. 1 shows that the pressing member 12 and stabilizer 150 are each largely circular. Applicant's Fig. 2 shows the greater spacing of the outer ends (160) of the stabilizer than the opposite ends of the pressing member (12).

It can be seen from Fig. 2 of Waide, that when his pressing member or block 2 is moved down against the patient, his legs 3 are not spaced further from the axis of his block 2 than are his legs 3. Specifically, the depressed block 2 and the legs 3 are equally spaced from the legs and head of the patient. As discussed above, this can result in tilting of his compressor assembly with consequent injury to the patient.

The Examiner rejected claim 13 on the grounds that the original specification fails to disclose that the stabilizer outer ends are spaced further from the axis than the pressing member "in every horizontal direction". Applicant believes that the fact that the stabilizer extends further from the axis than does the pressing member, is clear from applicant's Figs. 1 and 2. Fig. 2 clearly shows that the left and right stabilizer outer portions (160) lie further from the axis (140) than do the left and right sides of the presser member (12). Fig. 1 shows that the pressing member (12) and stabilizer (150) are of largely circular shape. Fig. 1 shows that the top and bottom legs at 152, 154 are further spaced from the axis of the actuator than the pressing member (12). Applicant notes that the original specification describes (page 4, lines 13-14) "a pressing member 12 having a diameter of about 3 inches", which suggests a circular pressing member, confirmed by Fig. 1. The original specification also describes (page 7, lines 13-14) "The particular stabilizer 150 is in the form of a saucer". This also suggests a stabilizer of circular shape, which is confirmed by the shape shown at 150 in applicant's Fig. 1. Accordingly, applicant believes that his description of the

stabilizer is supported by the original specification.

Claim 14, which depends from claim 13, was also rejected on Waide. Claim 14 describes the apparatus as shown in applicant's Fig. 2, where the outer ends (160) of the leg portions are of substantially the same height above a horizontal patient's chest as the pressing member (12) when not energized. This avoids the pressing member accelerating and hitting the chest. The Examiner said that Waide's Fig. 1 shows the outer end of his leg portions 3 at about the same height as the block 2 that presses against the person's chest. Applicant believes that Waide's Figs. 1 and 2 show that the bottom of his block 2 is perhaps an inch higher that the bottom of his legs 3 in the unenergized position of the apparatus.

Claim 15 was rejected as obvious over Woudenberg (4,664,098) in view of Kuroiwa (JP11301484A). Claim 15 describes apparatus for applying compressions to the chest of a patient, such as shown in applicant's Fig. 2. The apparatus includes a cylinder (60) and a plurality of telescoping piston parts (64, 66) that telescope in one another and that are exposed to pressured air in the cylinder. The lowermost piston part (66 and at 66A) has a lower piston inside surface (74) exposed to the pressured air. The lower piston inside surface has at least half the diameter of the inside surface of the cylinder (60). This assures that the actuator can apply a large force to the patient's chest along the entire stroke 90 of the piston.

Woudenberg shows a chest compressor which includes a bellows. The Japanese patent shows an actuator for opening and closing a gate, which includes multiple telescoping pistons. His last piston has a diameter (measured in his Fig. 2 as 4.5 mm) which is less than one quarter the inside diameter of his cylinder (18 mm). The fact that the inside diameter of his smallest piston is less than half and even less than one-quarter the inside diameter of his cylinder, means that his actuator cannot apply a high force to the smallest piston. Applicant also points out

that an engineer trying to develop a device for compressing a patient's chest would not turn to technology for closing a gate, so the Japanese patent is not analogous subject matter.

It is respectfully urged that for these reasons a reversal of the Examiner is in order. An oral hearing is not requested.

Respectfully submitted,

Leon D. Rosen
Attorney for Applicant
Registration No. 21,077

10960 Wilshire Boulevard
Suite 1220
Los Angeles, CA 90024
(310) 477-0578

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	:	
Max Harry Weil, et al.	:	
Serial No.: 09/678,616	:	Group Art Unit: 3764
Filed: October 4, 2000	:	Examiner: Justine Yu
For: CHEST COMPRESSOR	:	

APPENDIX TO BRIEF
CLAIMS 8,10, 13-15

Hon. Commissioner of Patents
Washington D.C. 20231

January 30, 2003
Los Angeles, CA 90024

8. Apparatus for applying compressions to the chest of a patient to stimulate blood circulation, comprising:

an energizable compressor assembly which includes an actuator that has a vertical axis that extends perpendicular to the patient's chest, and a pressing member for pressing against the patient;

a torso wrap that couples to said actuator and that wraps to the back of the patient, so downward forces of the pressing member against the patient's chest are withstood by upward forces applied to the patient's back;

a stabilizer that includes a plurality of leg portions that each has an inner end connected to said actuator and an outer end that is positioned to press against the front of the patient, with the outer ends of said leg portions spaced about said axis to minimize tilt of the actuator with respect to the patient's front;

said outer ends of said stabilizer leg portions are spaced further from said axis than any part of said pressing member that presses against the patient's chest, said outer ends including ends that lie respectively closer to the head and

legs of the patient than said pressing member and ends that lie closer to opposite sides of the patient than said pressing member.

10. The apparatus described in claim 8 wherein:

said stabilizer comprises a saucer-shaped element that extends more than 180° about said axis, said element having a center portion fixed to said actuator and a radially outer portion that rests substantially against the patient's chest.

13. Apparatus for applying compressions to the chest of a patient to stimulate blood circulation, comprising:

an energizable compressor assembly which includes an energizable actuator that has a pressing member that is pushed against a chest location on the patient's chest;

a torso wrap that couples to said actuator and that wraps to the back of the patient, so downward forces of the pressing member against the patient's chest are withstood by upward forces applied to the patient's back;

a stabilizer that includes a plurality of leg portions that each has an inner end connected to said actuator and an outer end that is positioned to press against the front of the patient, with said outer ends spaced about said axis to minimize tilt of the actuator vertical axis;

said pressing member having an axis and said stabilizer leg portion outer ends being spaced further from said axis than said pressing member in every horizontal direction to limit tilt of the compressor assembly in every tilt direction.

14. The apparatus described in claim 13 wherein:

said outer ends of said leg portions are at substantially same height above a horizontal patient's chest as said pressing member, when the patient chest is horizontal and the actuator is not energized, so said outer ends of said leg portion

and said pressing member all lie substantially against the patient's chest when the actuator is not energized.

15. Apparatus for applying compressions to the chest of a patient to stimulate blood circulation, comprising:

an energizable compressor assembly which includes an actuator and a source of pressured fluid;

a torso wrap that couples to said actuator and that wraps to the back of the patient, so downward forces of the piston against the patient's chest are withstood by upward forces applied to the patient's back;

said actuator includes a cylinder which has an inside surface which is coupled to said torso wrap and a piston with a plurality of telescoping piston parts that telescope in one another and that are exposed to pressured fluid in said cylinder, including an upper piston part that fits closely in said cylinder and a lowermost piston part, and including a pressing member on a lower end of said lowermost piston part for pressing against the patient's chest;

said lowermost piston part having a lower piston inside surface which is exposed to said pressured fluid and which has at least half the diameter of said inside surface of said cylinder.

Respectfully submitted,

Leon D. Rosen
Attorney for Applicant
Registration No. 21,077

10960 Wilshire Boulevard
Suite 1220
Los Angeles, CA 90024
(310) 477-0578